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ABSTRACT

This guide outlines a model that adult educators can use to construct a test for their adult students, regardless of subject area, that is written at the students' reading level. The problems that written tests pose for trade and technical students in further education (FE) who have poor reading skills and the drawbacks of using commercially produced tests with poor readers are discussed. A model is then proposed for using the Cloze procedure and the Simplified Measure of Gobbledegook (SMOG) readability formula to construct a trade or technical test that does not penalize poor readers. According to the model, a passage containing between 100 and 250 words is selected. The Cloze procedure is then applied to the passage, with every seventh word in the passage being deleted. The passage is then tested with a group of volunteers. A score of 90 percent or higher is taken to indicate independent reading, a score between 75 and 90 percent is considered the instructional level, and scores below 75 percent are considered the frustration level. Specific guidelines are provided for applying the Cloze and SMOG formulas and administering the test. Suggestions are also made for dealing with students' and tutors' lack of familiarity with the Cloze procedure. The model is recommended as a nonthreatening, easy-to-introduce, and informal form of assessment. (MN)

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ASSESSING READING SKILLS IN AN F.E. COLLEGE

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How can busy lecturers in an FE College identify students who may have difficulty with written material? And how can they modulate the complexity of course materials? Judy Vaughan, ALBSU Project Worker at Trowbridge Technical College, describes an assessment procedure she has developed which can be adapted to suit students and staff working in Further Education.

Background

Eighteen months ago I began an ALBSU Local Development Project at Trowbridge Technical College. The broad aim of the project was to look at the literacy and numeracy skills required across a range of courses and work with staff to identify ways in which students, whose skills were weak, could be supported.

I started work with the Construction Department, as the staff had already expressed their concern about such students. Immediately the staff faced me with a knotty problem — how could they quickly and easily identify students who would need support.

The Problem

It is crucial that craft students have adequate reading skills in order to successfully complete most craft level courses. Although writing and numerical skills are also involved, they do not always play such a vital role. Reading is so important, not only because notes must be read, but because the final exam paper usually involves multiple choice questions and answers must be read accurately.

My background in adult basic education, where the limitations and inadvisability of formal testing have been recognised, led me to suggest informal methods for identifying these students. However, they were not in a basic education

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setting with experienced literacy staff. They do not have the opportunity for small group or individual attention, so to recommend observation and negotiation and such things as profile checklists was felt to be inappropriate.

There was little opportunity for 1-1 contact, students were committed to following a heavy syllabus and were taught by a number of different tutors during the course of a week. Another problem was that the construction students were in college on block release. The first block is six weeks and then they are out at work. They only spend three blocks in college, so it is important to identify those who may be at risk very early on, so that steps could be taken to help these students develop their reading skills.

Criteria

The following criteria were seen to be the most important in finding a solution to this problem:

- Staff must be able to identify students with poor reading skills at the earliest possible time in order to give maximum support.
- Any form of assessment must be relevant to the course and of interest to the students.
- It must not be like a formal test, so that students would be relaxed and more likely to show their normal capabilities.
- It must assess reading for meaning and not just decoding skills.

Commercially produced tests

A number of these were looked at, but they all had similar faults:

- The reliable ones were long and complex to administer — very few subject tutors would feel able to use them, or that the time they took was justified.
- They were rarely of specific interest or relevance to the course — imagine a burly bricklayer being confronted during his first week at college with something that read.
- Most are aimed at a younger age group. Even those aimed at secondary schools used vocabulary and subjects inappropriate for 16+.
- The language used does date very quickly. The Bullock Report suggested that 10 years was the maximum life for this type of test.

Our solution

In order to fulfil these criteria, we needed an adaptable model for assessing reading. To make it relevant and valid, ideally we would have to produce a different text for each course. Also the level of reading skills required may differ from course to course.

A relevant passage of prose, at a suitable reading level seemed to be the obvious answer, with questions about the text at the end. There seemed to be a lot of difficulties with this approach:-

- Inherent knowledge about the subject may allow students to answer correctly.
- The answer to one question may be contained in the wording of the next.
- Unless carefully constructed, the answer to a question may be found within the passage, and yet the reader still has not fully comprehended the text.

I certainly did not have the confidence to wade through this particular minefield!

Cloze procedure eventually provided me with the means to develop a flexible and adaptable model. For those of you not already familiar with this activity, it means taking a passage of text and deleting words from it on a systematic basis e.g. every 10th word. The student then has to predict the missing words making maximum possible use of context clues.

The name cloze is short for 'closure' in Gestalt psychology i.e. our ability to see incomplete figures as complete. A broken circle we see as whole by mentally closing up the gaps.

NAME_____

COURSE_____

READ THROUGH THE SENTENCES BELOW AND PUT A LINE UNDER THE MOST SUITABLE WORD

1. You can buy stamps at a post (station, house, shop, man, office).
2. I shall not wait for you if you are (early, quick, late, there, coming).
3. There was a policeman at the crossroads directing the (shopping, animals, traffic, thoroughfare, one-way street).
4. A moderate amount of daily exercise should result in improved (leisure, health, reputation, hunger, football).
5. A breakfast of bacon and eggs is very (appetising, hospitable, entertaining, well-cooked, ingratiating).
6. The hard work he put into the scheme was the cause of his (failure, luck,

An American — Wilson Taylor — first developed this concept in relation to reading, in 1953 and coined the term cloze procedure. He described it as 'completing the sentence pattern for each word.'

Fluent reading is not a decoding process. We see only a percentage of the text and predict the rest. Cloze procedure is an attempt to study or develop that ability, in a controlled manner. Good readers will automatically use the information available to fill in the gaps.

Advantages of Cloze

- It can be set at any level.
- The text can be selected so that it is relevant.
- The student reads a continuous passage of prose, not single sentences, so it is more realistic.
- It has stood up well to the research that has been done (Taylor '53, Bormuth '68, Weaver '77).
- It tests a number of reading skills:
  1. recognising words
  2. using semantic and syntactic information to predict
  3. skimming to recap on what has been done
  4. scanning in search of unspecified information that may help in prediction

It can be used for diagnostic purposes, in that a student's responses may conform to a particular linguistic patterns (see Davis and Vincent '77 for further information on this.)

Producing the test

I used the SMOG formula to assess the readability (see notes on this later) of the final exam paper — this being the lowest level at which a student needs to be able to read.

A suitable passage was found, adapted or written at a similar readability level. The passage needs to contain between 100 and 250 words.

Cloze procedure was then applied to the passage. The best rate of deletion turned out to be every 7th word (see notes on this later).

It was tested on a group of volunteers, to find out if any deletions were ambiguous or if alternative words could be substituted. In some cases there was more than one word that would fill the gap and yet retain the correct meaning and structure of the sentence.

A scoring key was worked out on the basis that:

90%+ correct	= Independent reading
75%-90% correct	= Instructional level
below 75%	= Frustration level

These figures are taken from 'The Effective uses of Reading' — Lunzer and Gardiner. In 'How and Why of Cloze Procedure' different percentages are quoted, and attributed to Peter Harris. I found the Lunzer and Gardiner percentages gave me a more accurate result with my model, when I used it with a control group whose reading ability was already known.

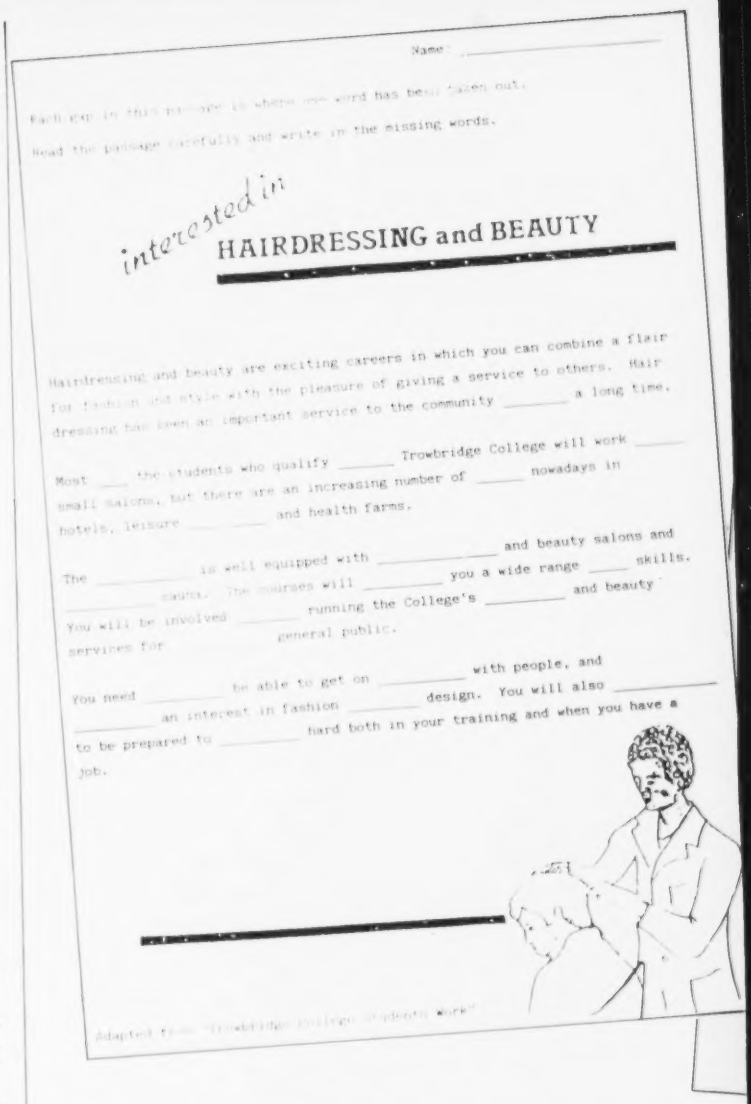
Number of deletions

I started with deleting every 10th word. However, on further background reading and my own experience, I have now reduced that number to provide more deletions per passage. I haven't found any magic number, but please note that less than fifth word deletions does not give the reader enough clues with which to predict the word. I am now using 7th word deletions for the next batch of texts I produce.

Always leave enough lines at the beginning of the passage to allow students some idea of what it is about before you start to delete any words.

If your counting brings you to a word which it is not appropriate to delete e.g. a name or technical term then delete another word instead.

The important point about deleting on a regular basis is that it gives a random selection of words. If you chose which words to delete it is likely that you may unconsciously choose, or avoid, a certain type of word.



Name: _____

Each gap in this passage is where one word has been taken out.

Read the passage carefully and write in the missing words.

interested in

HAIRDRESSING and BEAUTY

Hairdressing and beauty are exciting careers in which you can combine a flair for fashion and style with the pleasure of giving a service to others. Hair dressing has been an important service to the community _____ a long time.

Most _____ the students who qualify _____ Trowbridge College will work _____ small salons, but there are an increasing number of _____ nowadays in hotels, leisure _____ and health farms.

The _____ is well equipped with _____ and beauty salons and _____ salons. The courses will _____ you a wide range _____ skills. You will be involved _____ running the College's _____ and beauty services for _____ general public.

You need _____ be able to get on _____ with people, and _____ an interest in fashion _____ design. You will also _____ to be prepared to _____ hard both in your training and when you have a job.

Adapted from "Trowbridge College Students' Work"

Readability — what it is and how you assess it

Readability is an attempt to match the reading level or written material to the 'reading with understanding' level of the reader.

There are a number of readability formulae available for you to use to calculate the readability level of any text. These formulae use sentence and word length to do their calculations but please bear in mind that other factors affect your understanding of what you are reading e.g. motivation, previous knowledge of the subject, layout of written material, size and type of print etc.

Name _____

Finding a builder

The names of local builders can be found in telephone directories and local newspapers. Not all builders are willing to work on relatively _____ jobs such as knocking two rooms into one; some even consider extensions too small.

The best way to _____ a reliable builder is by personal recommendation from someone _____ has recently employed the builder. Then you can find out _____ well the builder cleared up, how good he was _____ timekeeping and how well the work was done. Lists of _____ who specialise in particular types of work, such as extensions, can be obtained from regional offices of _____ Federation of Master Builders and the National Federation of Building Trades Employers. The Building Control Section of your local architects may have a _____ idea of the quality of the work done _____ local builders.

Whichever builder you choose, it is a good _____ to ask to see some of his recent work. If _____ are employing a specialist package firm to see the _____ through from design to the actual building, make sure _____ see work done by the builder who is actually _____ to do your job.

Name _____

Buying timber

Timber can usually be bought from d-i-y shops, some hardware stores and ironmongers, builders' merchants and, of course, timber merchants. The smaller shops and many builders' merchants do not stock hardwoods ____most towns have at least one timber merchant or saw mill _____softwoods and hardwoods.

Timber merchants are often cheaper than _____shops, particularly for large quantities, and tend to know more_____ wood – how to use it and how to treat __ But the larger ones are often busy supplying the trade ____will generally expect a fairly large order presented in a knowledgeable manner. Many will not cut softwoods to size – ____deal in the standard metric sizes only.

Small timber merchants ____ rely heavily on d-i-y customers and builders' merchants mainly stock softwoods. The timber can vary in quality so it__essential to choose it carefully yourself and not to order it__ telephone. However, by careful choice, it is possible to ____ small quantities of good quality timber cheaper than from many large timber merchants.

Students at Trowbridge College

If a student was on a college course, it seemed safe to assume that they had some interest in the subject they were studying and some motivation to gain a qualification — although there are always exceptions to the rule!

To assess the readability level of the final exam papers I used the SMOG (Simplified Measure of Gobbledegook — McLaughlin 1969) Readability Formula. My reason for choosing this particular one was because it was easy to simplify for staff to use quickly as a rough guide. The idea was that, having assessed the level that students needed to read at, staff could then make sure that notes and handouts were at a similar level for two reasons:

1. to make sure that they were clear and accessible for most students.
2. for those who were only reading at an instructional level at the beginning of the year, reading at that level on a regular basis should help them towards reading at an independent level by the time the exams arrive.

SMOG Readability Formula

SMOG is considered by school teachers to give a reading age approximately 2 years higher than other formulae. This is because it assumes 100% comprehension of the text. Also it only gives a whole number reading e.g. 15, rather than 15.3, and so is not particularly accurate. However, in this context I decided it didn't really matter anyway because, as long as we all used the same formula, we were only going to use it for comparison and so reading ages are of no consequence. For example, having ascertained the SMOG figure for the final exam paper, we could then check the level of handouts, worksheets, notes and text books.

I used a BBC computer program called Readability Reckoner which has a number of well known readability formulae on it. Here is the simplified way of calculating SMOG by hand.

1. Select a text.
2. Count 10 sentences
3. Count numbers of words which have three or more syllables → ☐
4. Multiply this by 3 → ☐
5. Circle the number closest to your answer.

1	4	9	16	25	36	49	64	81	100	121	144	169

6. Write the square root of the number you circled

$\sqrt{\quad}$ _____ ☐

7. ☐ + 8 _____ ◯ *Readability level*

How valid is this form of assessment?

The results of research into using cloze procedure in this way have shown that results correlate well with formal reading tests, so in this sense it has equal validity to any reading test administered under the same conditions. Obviously it scores points over other tests, in that this model can be so easily adapted to any situation.

You can set the test to any level, it is solely dependent on the level at which your student needs or wants to be able to

Students at the FILCO Centre

read. This was already decided in the case of the students I was dealing with, but if your students are not working to a specific aim, then a general level of reading could be used as a guide e.g. a popular daily newspaper.

Administering the test

One of the original criteria for this test was that it had to be easy to administer, because most of the time it would be given to groups of students either by personal or subject tutors. The instructions they are given are very simple but extremely important:-

- Give out cloze passage.
- Ask students to fill in their name and course.
- Tell them briefly what the text is about.
- Instruct them to fill in the gaps, stating clearly that only one word is required in each gap.
- Make sure they understand that the words are not special technical terms, but common, everyday words.
- Spelling mistakes do not matter, as long as it is clear which word was intended.
- The time allowed would be when most students have finished. This has been working out around 10 minutes. Anyone who has not completed the test in a reasonable length of time should not be given an indefinite period, as s/he is obviously reading extremely slowly.

Problems

In case this sounds like the blueprint for assessing reading skills, I should warn you that it is simply a screening process and there are a number of disadvantages and shortcomings to this model:-

- The sight of a cloze passage is totally unfamiliar to the average F.E. student. Naturally this is very off-putting for them and they may tend to look for difficult or technical words to fill the gaps, in spite of having been told that they would be ordinary, everyday words that were missing.
- Tutors are not always aware of the importance of the instructions for administering the test and so don't bother to give the students this information anyway.

Solution: Showing some completed examples at the beginning of the test may help. With basic education students this may not be such a problem as you most likely use cloze procedure to develop reading skills, so they will be familiar with the format and know what is required.

- If you are using it in a formal situation it does need to be tried out first, particularly when using a continuous line in the gaps. There may well be some ambiguity and a number of words may fit in. You need to know before you start marking which words you will accept. In a number of cases there may well be more than one word that will fit and still make sense in the context. Learn from my experience — you will never be able to think of all the alternatives on your own!

Solution: Using dashes to denote the number of letters in the word, rather than a continuous line, will mean that you can accept only one word and no alternatives. However, this could cause problems for poor spellers.

- Tutors can be puzzled and suspicious as to how it works.

Solution: Make sure that you can give a simple explanation of what cloze is about.

- It is not suitable for E.F.L. or E.S.L. students, as it does assume a knowledge of the language structure and meaning of English.
- It has all the problems of inconsistency that any single test will have i.e. it only registers accurately how a student has performed at that time on that particular day, so factors affecting his or her performance are not taken into account.
- Some research done in 1982 by Shanahan, Kamil and Tobin studied the effect of scrambling cloze passages. The cloze scores from the normal and scrambled passages were very much the same, bringing into question whether comprehension was being measured only at sentence level. However, students' ability to recall the content of the passages was significantly increased. The feeling amongst 'experts' is that more research needs to be done in this area, but in the meantime cloze procedure remains a useful tool.

Conclusion

The advantages of this form of assessment still outweigh the disadvantages for the situation for which it was developed. It is still under review, but we are nearly at the final model. It has provided us with a flexible but reliable test which can be purpose-made to suit the demands of any course, without involving anyone in hours of work.

Tutors like it because it can be introduced naturally into the course, doesn't take too long and can be marked quickly.

Students say they don't feel threatened by it, it seemed a fair assessment and they could remember what the passage was about six weeks after reading it — I'm sure the tutors wished the students could remember their notes as well as this!

I like it because it has provided me with a flexible model for the future. I can now design a purpose-built assessment of reading skills to suit the demands of any course, without involving me in hours of work!

As far as basic education is concerned it provides a quick and easy way of checking how your student is getting on and whether you are giving him/her texts to read at an appropriate level.

Useful resources

How and Why of Cloze Procedure, How and Why of Readability, Diane Bentley, Reading Information Centre, University of Reading, School of Education, London Road, Reading, Berks.

Cloze Procedure and the Teaching of Reading, James Rye, Heinemann Educational Books.

Assessment and Testing of Reading, Michael Raggett, Christine Tutt, Patricia Raggett, Ward Lock Educational.

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